**VIRAL WARTS**

- Very common condition, prevalence is highest in children, affect 4-5% of school children in UK
- Are caused by human papilloma virus HPV which still not cultured in vitro, more than 70 types have been recognized by DNA sequencing
  - HPV 1,2,4 found in common wart
  - HPV 3 found in plane wart
  - HPV 6,11,16,18 found in genital wart
- Infection occur when virus in skin scales comes into contact with breaches in skin & mm

**Presentation**

**Common wart**
- smooth skin colored papules often more easily felt than seen
- As lesion enlarge, its irregular hyperkeratotic surface gives it the classic warty appearance
- Occur on hands, face, genitalia
- More often multiple, pain is rare

**Plantar wart**
- Have rough surface which protrudes only slightly from skin & surrounded by a horny collar
- On paring the appearance of bleeding capillary loops allows to distinguish it from corn
- Often multiple, can be painful

**Mosaic wart**
- Rough mrginated plaques made up of many small tightly packed but discrete individual warts
- Common on sole also seen on palms & around fingernails
- Usually are not painful

**Plane wart**
- Smooth flat topped papules, usually skin color or light brown
- Common on face & brow
- They become inflamed as a result of immunological reaction, just before they resolve spontaneously
- Often multiple, painless, may arranged along a scratch line

**Facial wart**
- Digitate ugly in appearance
- Common in beard area of adult males spread by shaving
Usually painless

**Anogenital wart (condylomata acuminata)**

- Papillomatous cauliflower like lesions with moist macerated vascular surface, may coalesce huge discomforting irritating lesions
- Occur anywhere in anogenital area
- Vaginal & anorectal mucosa may affected
- Its presence in children give rise the suspicion of sexual abuse but its usually due to autoinoculation from common wart elsewhere

**Course**

- Warts resolve spontaneously in healthy as the immune response overcomes the infection
- 30% resolve in 6 months
- 65% resolve in 2 years
- Mosaic wart are slowly resolve & often resistant to treatment
- Warts persist & spread in immunocompromized
- 70% of renal allograft recipients will have warts 5 years after transplantation

**Complications**

- Some plantar warts are very painful
- Epidermodysplasia verruciformis is a rare inherited disorder in which there is universal wart infection with unusual types of HPV, carcinomatous changes occur
- Malignant changes is otherwise rare but certain genital strains may cause cervical or penile cancer, immunocompromized also linked to skin cancer especially on light exposed areas

**DDx**

- Molluscum contagiosum
- Plantar corns
- Granuloma annulare
- Condylomata lata of syphilis
- Amelanotic melanomas & other epithelial malignancies

**Treatment**

- Many warts give no trouble, need no treatment
- Treatment depend on the type of wart
- In general destruction by cryotherapy is less likely to cause scars than excision or electrocautery

**Palmoplantar wart**

- salicylic acid 12-20%
- Formaldehyde, glutaraldehyde
- Formalin solution 4%
Cryotherapy with liquid nitrogen

**Anogenital warts**
- Women with anogenital warts or who are partners of men with anogenital warts should have their cervical cytology checked regularly as the wart virus can cause cervical cancer
- Podophyllotoxin 0.5% solution, 0.15% cream, these should not be used in pregnancy
- Cryotherapy, electrosurgery, laser

**Facial common warts**
- Electrocautery
- Hyfrecator
- Cryotherapy
- Shaving
- Should avoid scarring

**Plane warts**
- On the face best left untreated & parent reassured about spontaneous resolution
- Imiquimod
- Cryotherapy

**Solitary stubborn or painful wart**
- Local anesthesia + curette
- Surgical excision is never justifiable
- Bleomycin injection

**VARICELLA (CHICKENPOX)**
- Herpes virus varicella zoster is spread by respiratory route,
- Incubation period is 14 days
- Slight malaise followed by development of papules which rapidly become vesicles, then a pustule
- Over few days it heal leaving white depressed scar
- Lesions appear in crops, often itchy
- Most profuse on trunk, least on extremities (centripetal)
- 2nd attack is rare, can be fatal in immunocompromised

Cx: pneumonia, secondary infection, hemorrhagic chicken pox in immunocompromised, scarring

DDx: small pox is centrifugal, eradicated universally

No investigation usually needed

Rx: aciclovir, famciclovir, valaciclovir should reserve for immunocompromised or severe attacks
- Prophylactic aciclovir if given in first 2 days of infection
Mild cases respond to calamine lotion
Live attenuated vaccine is available but should not be given to immunodeficient or blood dyscrasia patients

HERPES ZOSTER

▪ Shingles caused by herpes virus varicella zoster
▪ An attack is a result of reactivation of virus that remain dormant in sensory root ganglion since an earlier episode of chickenpox
▪ Incidence is higher in elderly, Hodgkin disease, AIDS, leukemia
▪ Does not occur in epidemics
▪ Patient can transmit virus to other in whom it will cause chickenpox
▪ Attacks start usually with burning pain soon followed by erythema & grouped vesicles scattered over a dermatome, then content become purulent in few days burst & crust, scaps separate in 2-3 weeks leaving depigmented scar
▪ Often unilateral, more than one dermatome may be affected
▪ Thoracic segment, ophthalmic branch of trigeminal nerve usually involved
▪ A generalized chickenpox like eruption accompany segmental herpes zoster should rise suspicion of malignancy or immunocompromised

Complications

▪ Secondary bacterial infections
▪ Motor nerve involvement
▪ Ophthalmic branch affection may leads to corneal ulceration & scarring
▪ Persistent neuralgic pain most common in elderly

DDx

1. Appendicitis
2. Myocardial infarction
3. Herpes simplex
4. Impetigo
5. Eczema

Investigations

Culture +ve in 70%
Biopsy or tzank smear show multinucleated giant cells & ballooning degeneration of keratinocytes
If any underlying condition suspected further investigation done

Treatment

▪ Systemic treatment should be given to all patient if diagnosed in early stage of the disease
▪ Treatment should start within 1st 5 days
▪ Aciclovir, famciclovir, valaciclovir
▪ Analgesia, treat secondary bacterial infections, topical capsaicin
Systemic carbamazepine, gabapentin

**HERPES SIMPLEX**

- Caused by herpes virus hominis, type 1 mainly cause extra genital lesions, type 2 cause genital lesions
- Route of infection through mucous membrane or abraded skin
- After primary infection the virus may become latent within nerve ganglia & capable of given rise to recurrences

**Presentation**

**Primary infection**

- Most common manifestation of type 1 infection in children is acute gingivostomatitis with malaise, fever, head ache, enlarged cervical lymph nodes
- Then vesicles become ulcers on lips & mucous membrane, illness last 2 weeks
- Type 2 transmitted sexually cause multiple painful genital or perianal ulcers which rapidly ulcerate
- Virus can be directly inoculated into skin (herpetic whitlow)
- Fingertips blisters common in medical personnel attending patients with unsuspected herpes simplex infections

**Recurrent infection**

- Strike same place, may precipitate by respiratory tract infection, UV radiation, menstruation, stress type 1 on face, type 2 on genitalia
- Tingling, burning, pain followed by erythema & clusters of tense vesicles, crusting occur in 24-48 hours & whole episode last 12 days

**Complications**

- Herpes encephalitis or meningitis
- Disseminated herpes in immunocompromised, debilitated children
- Eczema herpeticum in atopic patients
- Dendritic ulcers & corneal scarring
- Recurrent herpes followed by erythema multiforme

**Treatment**

- Dabbing with surgical spirit
- Topical bacitracin, mupirocin, framycetin, fusidic acid for secondary bacterial infections
- For more sever frequent attacks aciclovir cream
- Aciclovir tablets 200mg five times daily, for recurrence or immunocompromised longer duration & lower courses used
- Famciclovir, valaciclovir are also effective

**MOLLUSCUM CONTAGIOSUM**

- Pox virus spread by direct contact sexually or sharing towels
- Incubation period is 2-6 weeks, often several members of the family affected
Shiny white or pink hemispherical papules with central punctum with a cheesy core give rise to an umbilicated appearance

Multiple lesions are common, in atopic & immunocompromised have extensive infection spread by scratching or by topical steroid

Untreated lesions heal in 6-9 months

Cx: eczematous patches appear around mollusca, traumatized or over treated lesions may become secondary infected

DDx: boil, keratoacanthoma, intradermal nevus, cystic basal cell carcinoma

**Treatment**

- Squeezing out the lesions by a forceps
- Curettage, liquid nitrogen
- Imiquimod or chlortetracyclin creams
- Eyelid lesions can referred to ophthalmologist for curettage

**ORF (CONTAGIOUS PUSTULAR DERMATITIS)**

- Parapox virus can be transmitted to those handling infected animals
- Commonly seen on hands of shepherds, who bottle feed lambs, butchers
- IP is 5-56 days, lesions are single or multiple small firm papules change to flat topped pustular nodules with violaceous & erythematous surrounding

Cx: lymphadenitis, erythema multiforme, giant lesions in immunosuppressed

DDx: milkers nodule, furuncles

Rx: no active therapy needed, just treat secondary bacterial infections

**AIDS**

- Was 1st recognized in USA in 1981 in men homosexuals with pneumocystis, Kaposi sarcoma, & immunosuppression
- Its acquired through body fluid esp semen & blood
- In UK & USA most cases are homosexual or bisexual men, in Africa most spread heterosexually
- Another risk group are IV drug abusers who shared contaminated syringes & needles
- Up to ½ of babies born to infected mothers will be infected transplacentally
- Heterosexual transmission now account for 25-30% of new cases in Europe & USA

**Pathogenesis**

- HIV 1 & 2 are retroviruses containing reverse transcriptase enzymes which allow viral DNA copy to be incorporated into the chromosome of host cell
- Their main target are T helper/inducer lymphocytes which express CD4 molecules on their surface
- Viral replication with these cells will kill them leads to loss of cell mediated immunity which followed by a variety of opportunistic infections
Course

- Original infection may be asymptomatic followed by a glandular fever like illness at time of seroconversion
- After a latent phase of several years a persistent generalized LAP develops
- AIDS related complex is next stage in which many symptoms of AIDS as fever, weight loss, fatigue, diarrhea may appear but without opportunistic infections or malignancy
- Average time from infection to onset of AIDS is about 10 years, once AIDS develops if untreated ½ will die in 1 year & ¾ will die in 4 years

Skin changes in AIDS

- Kaposi sarcoma: multiple purplish patches or nodules, initial presentation in small percentage, esp. in homosexual men, lesions may be atypical & diagnosis easily missed
- Seborrheic eczema & folliculitis in 50%, its early may be due to overgrowth of pityrosporum yeasts, eosinophilic folliculitis & itchy folliculitis of head, neck & trunk may be due to overgrowth of Dimodex folliculorum
- Skin infections-florid unusually extensive or atypical examples of common infections as H. simplex, H. zoster, molluscum, oral & cutaneous candida, tinea, P. versicolor, scabies, staphylococci, facial & common warts, oral hairy leukoplakia due to proliferation of Epstein-Barr virus, bacillary angiomatosis
- Syphilis & mycobacterial infections can coexist with AIDS
- Dry skin, pruritus, diffuse alopecia, drug eruptions increase, psoriasis may start or worse with AIDS

Treatment

- Dx confirmed by +ve blood test for antibodies to the virus
- Modern HIV drugs increase life expectancy but not cures
- HAART usually triple therapy with 2 nucleoside reverse transcriptase inhibitors plus either a non nucleoside reverse transcriptase inhibitors or a protease inhibitor
- Treatment & prophylaxis for infections, education to avoid risky behavior as unprotected sex

Mucocutaneous lymph node syndrome (Kawasaki’s disease)

- Caused by parvovirus
- Affects mainly young children
- Generalized erythema most marked on glove & stocking distribution with indurated oedema of palms & soles
- Peeling around fingers & toes is late feature
- Bilateral conjunctival injection & erythema of lip, buccal mucosa, tongue (strawberry tongue) is common
- The episode accompany by fever
- It resolve in 2 weeks
Despite the name not all patient have LAP

There is risk of developing myocarditis & coronary artery disease

Pathology is close to that of polyarteritis nodosa

Rx: Aspirin & IV gamaglobulin, should be given early to decrease the risk of cardiac complications

**Gianotti-Crosti syndrome**

Uncommon reaction to an infection with hepatitis B virus in childhood

Small red papules bilaterally over limbs & face, fade over few weeks

Abnormal liver function tests

Jaundice is uncommon

**herpangina**

Acute infectious illness by group A Coxsacki virus

Usually in child with fever, sever sore throat covered with small vesicles which rapidly become ulcers

Resolve in about 1 week

**Hand, foot & mouth disease**

Caused by Coxsacki A16; Minor epidemic occur in institutions

Oral vesicles are fewer & smaller than in herpangina

On hand & foot small greyish vesicles with narrow rim of redness; It settle in few days

**Measles**

Incubation period is 10 days followed by fever, conjunctival injection, photophobia, upper resp. catarrh

Koplik spots seen on buccal mucosa

Net like rash appear after few days on the brow & behind the ear & soon become extensive before fade with desquamation

Prevention by MMR immunization

**rubella**

After incubation period of 18 days, LAP occur few days before the evanescent pink macular rash which fades 1st on trunk in few days

Rubella in 1st trimester carry risk of damage to unborn child

Prevention by MMR immunization

**Erythema infectiosum (fifth disease)**

Caused by human Parvovirus B19, occur in outbreaks often in spring

Slapped cheek erythema followed by reticulate erythema of shoulders

Affected child is well, rash clear in few days

Sometimes transient anemia & arthritis not accompany by rash